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10/748,950	12/30/2003	Roger M. Ikeda	TI-37410	7897

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EXAMINER	
KOZIOL, STEPHEN R	
ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/748,950	IKEDA, ROGER M.	
	Examiner	Art Unit	
	STEPHEN R. KOZIOL	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/26/2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Detailed Action

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 01/03/2008 has been entered. Claims 1-20 are pending.

Response to Arguments

2. *Summary of Applicant's Remarks:*

Applicant traverses the rejection of claim 1 under 35 U.S.C. § 112, first paragraph.

Applicant also disagrees with examiner's use of Kurematsu as applied to claim 1, specifically arguing that Kurematsu does not teach a downloading unit for downloading a character data, corresponding to the converted numeric value, from said data delivery server, as required by independent claims 1, 4 and 7 ("Remarks" 01/03/2008, page 8-10).

Response to Arguments re 35 U.S.C. § 112, first paragraph rejection:

In light of applicant's remarks, the rejection of claim 1 under 35 U.S.C. § 112, first paragraph is hereby withdrawn.

Response to Arguments re Kurematsu and claim 1:

Examiner maintains that Kurematsu teaches each and every limitation of independent claim 1. With respect to the limitation of "a processor capable of determining.., a second position of the adjustable aperture based at least in part on the first position" see at least

paragraphs 0072-0073 of Kurematsu which state, *inter alia*, "[t]he luminance level calculation means 30a may preferably calculate the maximum value of the luminance signal of each pixel in each field or each frame of the input image signal as maximum luminance. In this case, the maximum value can be calculated by comparing the input image signal in a field or a frame in succession" (Kurematsu, par. 0073) (emphasis added). Here we see an embodiment of Kurematsu that does not consider each input image frame in a vacuum, as suggested by Applicant (Remarks page 9), when determining aperture position, but rather incorporates information from frames in succession when calculating the values that determine the signal to control the aperture position. When determining a new aperture position from a frame in succession ("a second position…based on the first position" to use the language of claim 1) Kurematsu does not discard or forget the position of the previous (first) frame in succession, but rather this "first" frame naturally serves as the starting point in determining the second aperture position. Furthermore, it is noted that the processor of Kurematsu need only be *capable of* determining a first position of an adjustable aperture… as required by claim 1. None of the above-cited passages in Kurematsu indicated that the processor taught by Kurematsu is anything less than fully "capable of determining a first position of an adjustable aperture…" as required by claim 1.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims (1, 5, 7 and 8) are rejected under 35 U.S.C. 102(b) as being anticipated by Kurematsu U.S. Pre-Grant Application Publication 2002/0105621 A1 ("Kurematsu").

Regarding claim 1, Kurematsu teaches a control module for use in an image display system (Abstract, fig. 1), comprising:

i. a histogram module operable to collect data associated with a first frame and a second frame of a signal received by the control module, the histogram module comprising a plurality of bins capable of counting a first and second plurality of pixels associated respectively with the first and second frames, wherein the first and second plurality of pixels each comprises a respective maximum intensity component at a particular color level *(Fig. 4A-B, fig 5A-B, also, par. 0073-0074, where the maximum intensity component is Kurematsu's "maximum luminance" and par. 0073, where Kurematsu discloses operating upon each frame of the input signal);* and

ii. a processor capable of determining a first position of an adjustable aperture *(projection light amount means)* based at least in part on at least a position of the data collected by the histogram module, and a second position of the adjustable aperture based at least in part on the first position, *(fig 1 item 20 acts as the aperture adjusting processor, also par 0082 teaches that the processor is fully capable of controlling the amount of projection light in conformity with the maximum luminance level of the input signal. Also see at least pars. 0084 and 0098 where it becomes clear that Kurematsu discloses a plurality of adjustable aperture positions, each new position for a given image frame necessarily responsive to, and dependant upon, the previous aperture position.)*, the processor further capable of determining a gain to apply to the second frame of the signal based at least in

part on the second adjustable aperture position *(par 0080, where the processor is further capable of applying gain, or "amplify[ing] the signal," in response to change in the amount of projected light).*

Regarding claim 5, Kurematsu teaches a control module for use in an image display system (Abstract, fig. 1) wherein the adjustable aperture selectively varies an amount of light transmitted along a projection path *(Fig 1 item 20, also, par 0068).*

Regarding claim 7, Kurematsu teaches a control module for use in an image display system (Abstract, fig. 1) wherein the processor determines a new position of the adjustable aperture based on a step size to move the adjustable aperture and a target aperture position *(fig 1 item 20, also, pars 0079-0080).*

Regarding claim 8, Kurematsu teaches a control module for use in an image display system (Abstract, fig. 1) further comprising:

i. a memory coupled to the processor and capable of storing data associated with an image intensity algorithm *(pars 0074 and 0096-0097);*

ii. a video processing module coupled to the histogram module and capable of processing the received signal on a frame-by-frame basis *(fig 1 item 30, also, par 0072 & 0073), where Kurematsu's control signal generating means is responsible for processing the received input signal on a frame-by-frame basis);* and

iii. a gain module coupled to the video processing module and the processor, the gain module capable applying the gain to the subsequent frame received by the control module *(fig 1 item P, also, par 0080 where gain, or "amplify the signal," is applied in response to change in the amount of projected light).*

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims (2-3 and 6) are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu U.S. Pre-Grant Application Publication 2002/0105621 A1 in view of Baer U.S. Pre-Grant Application Publication 2002/0158986A1 ("Baer").

Regarding claim 2, Baer further teaches a control module for use in an image display system (Abstract, fig. 1) wherein the processor determines the position of the adjustable aperture based at least in part on the data collected by the histogram module *(see Baer where the image processor (Fig 2 item 22) adjusts the aperture control (Fig. 2 item 14) in part based on a number of clipped pixels and data stored in a histogram as described in ¶¶0026-32 and shown in Figs. 3-5).*

It would have been obvious to a person having ordinary skill in the art to combine the above-identified well known uses and benefits of Kurematsu's aperture control system with the

above-identified well known uses and benefits of Baer's aperture control system utilizing clipped pixel values in a fashion encompassed by claim 2, and one skilled in the art would have seen the benefits of doing so. See *KSR International Co. v. Teleflex Inc.* 550 U.S. ____ (2007), *"A person of ordinary skill is also a person of ordinary creativity, not an automaton."*

Regarding claim 3, Baer further teaches a control module for use in an image display system (Abstract, fig. 1) wherein the parameter associated with the number of clipped pixels comprises no more than a small fraction of the total number of pixels with a modulator *(see Baer where the image processor (Fig 2 item 22) adjusts the aperture control (Fig. 2 item 14) in part based on a number of clipped pixels and data stored in a histogram as described in ¶¶0026-32 and shown in Figs. 3-5).*

Regarding claim 6, Kurematsu teaches a control module for use in an image display system (Abstract, fig. 1) wherein the histogram storage modules operate to count the maximum intensity component of a particular color level (fig. 4A-B, par. 0073-0074). Kurematsu is silent on the histogram storage module comprising exactly thirty-two storage modules. However, Official Notice is taken to note that based on the amount of processed histograms needed to be stored in Kurematsu's disclosed histogram storage modules (par. 0073-0074), it would have been obvious, practical, and desirable for one of ordinary skill in the art at the time of the invention to modify Kurematsu's number of histogram storage modules within a range including thirty-two histogram storage modules for the benefit of counting the maximum intensity component of a particular color level.

8. Claims (4 and 17-18) are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu US 2002/0105621 A1 in view of Tintera US 5,745,808, hereinafter, Tintera.

Regarding claim 4, Kurematsu in view of Tintera as a whole teaches a control module for use in an image display system (Kurematsu, Abstract, fig. 1) wherein the processor determines the gain to apply to the subsequent frame (Kurematsu, fig 6A-B, also pars 0082-0083, and, 0096-0097). Kurematsu does not explicitly state the gain to be applied to the subsequent frame is performed by accessing an aperture position to gain table. However, Tintera does teach the gain applied to subsequent frames is performed by accessing an aperture position to gain table (Tintera, fig. 3A-B and fig. 6, also, col. 3, ln. 55-67).

It would have been obvious to a person having ordinary skill in the art to combine the above-identified well known uses and benefits of Kurematsu's aperture control system with the above-identified well known uses and benefits of Tintera's aperture rate adjustment in a fashion encompassed by claim 4, and one skilled in the art would have seen the benefits of doing so. See *KSR International Co. v. Teleflex Inc.* 550 U.S. ____ (2007), *"A person of ordinary skill is also a person of ordinary creativity, not an automaton."*

Regarding newly amended claim 17, Kurematsu teaches a control module for use in an image display system, comprising (Abstract, fig 1):

i. a gain module coupled to the processor, the gain module capable of applying a gain to a subsequent frame received by the control module, wherein the amount of gain applied to the subsequent frame is based at least in part on the new adjustable aperture position *(Kurematsu, fig 1 item P, also, par 0080 where gain, or "amplify the signal," is applied*

in response to the new adjustable aperture position or, "change in the amount of projected light").

Kurematsu is silent on adjusting the rate at which move the aperture, however Tintera teaches:

ii. a processor capable of adjusting ~~determining~~ a rate at which ~~new position of~~ an adjustable aperture based at least in part on ~~a step size to move the adjustable aperture and~~ a target aperture position and a current aperture, wherein the target aperture position is based at least in part on data of a first frame received by the control module *(see Tintera col. 3 line 35 thru col. 4 line 42 as described re claim 9 above)*

Regarding claim 18, Kurematsu teaches a control module for use in an image display system (Abstract, fig 1) wherein the processor is further capable of determining a gain to apply to a subsequent frame based at least in part on the new adjustable aperture position *(Kurematsu fig 1 item P, also, par 0080 where gain, or "amplify the signal," is applied in response to the new adjustable aperture position or, "change in the amount of projected light").*

9. Claims (9-12, 14-15 and 19-20) are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurematsu US 2002/0105621 A1 in view of Baer U.S. Pre-Grant Application Publication 2002/0158986A1 further in view of Tintera US 5,745,808 ("Tintera").

Regarding newly amended claim 9, Kurematsu teaches a method of controlling a position of an aperture in an image display system (Abstract, fig 1), comprising:

i. determining a gain to apply to a subsequent frame based at least in part on a new aperture position, wherein the new aperture position is based at least in part on the current aperture

position and the step size to move the aperture *(Kurematsu pars 0072-0073 and 0080, where the luminance, and thus aperture positions, of a succession of input frames is compared.)*

Kurematsu is silent on determining a target aperture position based at least in part on a parameter associated with a number of clipped pixels and data stored in a histogram, wherein the data stored in the histogram comprises data of a first frame, and adjusting ~~determining~~ a ~~step size~~ rate at which to move the aperture based at least in part on a current background storage module and a magnitude of a difference between the target aperture position and a current aperture position.

However, Baer teaches the limitation of determining a target aperture position based at least in part on a parameter associated with a number of clipped pixels and data stored in a histogram, wherein the data stored in the histogram comprises data of a first frame *(see Baer where the image processor (Fig 2 item 22) adjusts the aperture control (Fig. 2 item 14) in part based on a number of clipped pixels and data stored in a histogram as described in ¶¶0026-32 and shown in Figs. 3-5).*

Tintera further teaches the limitation of adjusting ~~determining~~ a ~~step size~~ rate at which to move the aperture based at least in part on a current background storage module and a magnitude of a difference between the target aperture position and a current aperture position *(see Tintera col. 3 line 35 thru col. 4 line 42).*

It would have been obvious to a person having ordinary skill in the art to combine the above-identified well known uses and benefits of Kurematsu's aperture control system with the above-identified well known uses and benefits of Baer's aperture control system utilizing clipped pixel values with the above-identified well known uses and benefits of Tintera's aperture rate

adjustment in a fashion encompassed by claim 9, and one skilled in the art would have seen the benefits of doing so. See *KSR International Co. v. Teleflex Inc.* 550 U.S. ____ (2007), *"A person of ordinary skill is also a person of ordinary creativity, not an automaton."*

Regarding claim 10 Baer further teaches a method of controlling a position of an aperture in an image display system wherein determining the target aperture position comprises:

determining a histogram storage module that contains a pixel equaling the parameter associated with the number of clipped pixels accessing a target aperture position table based on the histogram storage module that contains the pixel equaling the parameter associated with the number of clipped pixels *(see Baer where the image processor (Fig 2 item 22) adjusts the aperture control (Fig. 2 item 14) in part based on a number of clipped pixels and data stored in a histogram as described in ¶¶0026-32 and shown in Figs. 3-5).*

Claim 11 has been analyzed and is rejected with respect to the discussion in claim 3 above, as the limitation in claim 11 are identical to the limitations in claim 3, despite those limitations manifesting in method form in claim 11 as opposed to apparatus form in claim 3.

Claim 12 has been analyzed and is rejected for the reasons indicated re claim 6 above.

Claim 14 has been analyzed and is rejected with respect to the discussion in claim 4 above, as the limitation in claim 14 are identical to the limitations in claim 4 supra.

Regarding claim 15, Kurematsu further teaches a method of controlling a position of an aperture in an image display system (Kurematsu, Abstract, fig 1) wherein the aperture position to gain table (see claim 4 discussion) comprises 256 positions (Kurematsu, par. 0074, where 0-255 aperture position stops are disclosed).

Claims 19 has been analyzed and is rejected for the reasons indicated re claim 6 above.

Regarding claim 20, Baer further teaches the method of claim 17 comprising a control module for use in an image display system (Abstract, fig 1) wherein the processor determines the target aperture position based at least in part on the data collected by a histogram *(see Baer where the image processor (Fig 2 item 22) adjusts the aperture control (Fig. 2 item 14) in part based on a number of clipped pixels and data stored in a histogram as described in ¶¶0026-32 and shown in Figs. 3-5).*

10. Claims (13 and 16) are rejected under 35 U.S.C. 103(a) as being unpatentable Kurematsu US 2002/0105621 A1 in view of Baer U.S. Pre-Grant Application Publication 2002/0158986A1 in view of Tintera US 5,745,808 further in view of Kondo et al. US 5,258,848 ("Kondo").

Regarding claim 13 Kurematsu further teaches the method of claim 9 wherein determining the step size to move the aperture comprises:

i. determining a histogram storage module that contains a pixel equaling a background pixel value and storing that histogram storage module as the current background storage module *(Kurematsu fig 1, also, pars 0079-0080, where a luminance level of 255 acts as the background storage module value for the light modulating element P);*

ii. determining a magnitude of a difference between the current background storage module and a preceding background storage module *(Kurematsu, fig 1, also, pars 0079-0080, where a luminance level of 255 acts as the background storage module value for the light modulating element P, and the difference between the target aperture position and a current aperture position is controlled by said light modulating element P);*

Kurematsu, Baer and Tintera are silent on the following limitations, however Kondo does teach:

iii. if the magnitude of the difference between the current background storage module and the preceding background storage module exceeds a large storage module change threshold, setting the aperture step size to a maximum movement value *(Kondo, fig. 2 (item 13) and fig. 3, also, col. 3, ln. 40-51,where Kondo teaches the aperture step size is set to a maximum movement value when a large storage module change threshold is exceeded) ;*

iv. otherwise: determining the magnitude of the difference between the current aperture position and the target aperture position *(Kondo, col. 3, ln. 18-40);*

v. if the magnitude of the difference between the current aperture position and the target aperture position exceeds a large aperture movement threshold, setting the aperture step size to a large movement value *(Kondo, fig. 2 item 6, and fig 3, also, col. 3, ln. 40-51);*

vi. otherwise setting the aperture step size to a minimum movement value *(Kondo, fig. 2 item 6, and fig 3, also, col. 3, ln. 40-51).*

It would have been obvious to a person having ordinary skill in the art to combine the above-identified well known uses and benefits of Kurematsu's aperture control system with the above-identified well known uses and benefits of Baer's aperture control system utilizing clipped pixel values with the above-identified well known uses and benefits of Tintera's aperture rate adjustment as discussed re claim 9 above with Kondo's gain magnitude adjustment control in a fashion encompassed by claim 13, and one skilled in the art would have seen the benefits of doing so. See *KSR International Co. v. Teleflex Inc.* 550 U.S. ____ (2007), *"A person of ordinary skill is also a person of ordinary creativity, not an automaton."*

Regarding claim 16, Kondo further teaches the method of claim 9 further comprising controlling a position of an aperture in an image display system further comprising:

i. comparing the new aperture position to the target aperture position *(Kondo, col. 3, ln. 18-40)*;

ii. determining whether the new aperture position will exceed the target aperture position *(Kondo, fig. 2 item 13 and fig. 3, also, col. 3, ln. 40-51);*

iii. if the new aperture position will exceed the target aperture position, then limit the step size to move the aperture to a limited step size to prevent the new aperture position from exceeding the target aperture position *(Kondo, fig. 2 item 13 and fig. 3, also, col. 3, ln. 40-51, and, col. 4, ln. 60-67 cont' col. 5, ln. 1-8);*

iv. otherwise move the aperture based on the step size *(Kondo, fig. 2 item 13 and fig. 3, also, col. 3, ln. 40-51, and, col. 4, ln. 60-67 cont' col. 5, ln. 1-8).*

Contact

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Koziol whose telephone number is (571) 270-1844. The examiner can normally be reached on Monday - Friday 8:30 - 5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Samir Ahmed can be reached at (571) 272-7413 . Customer Service can be reached at (571) 272-2600. The fax number for the organization where this application or proceeding is assigned is (571) 273-7332.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

04/21/208

/srk/

/Samir A. Ahmed/

Supervisory Patent Examiner, Art Unit 2624